ORIGINAL

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April 10, 2003

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: WT Docket No. 02-377
Ex Parte Presentation of
Cable & Communications Corporation d/b/a Mid-Rivers Cellular

Dear Ms. Dortch,

On April 9,2003, Gerry Anderson, Bill Wade and Doug Senner, representatives of Cable & Communications Corporation d/b/a Mid-Rivers Cellular, together with their attorney, Sylvia Lesse, met with Lisa Zaina and Barry Ohlson of Commissioner Adelstein's office. The purpose of the meeting was to discuss Phase II E-911 requirements generally, and the impact of these requirements on Mid-Rivers Cellular specifically. During the meeting, Mid-Rivers provided the attached information to Ms. Zaina and Mr. Ohlson, as well as copies of comments filed in this proceeding by Cable & Communications Corporation on **January** 24,2003.

Please direct any questions regarding this matter to the undersigned.

Respectfully submitted,

Sylvia Lesse

cc: Lisa Zaina, Office of Commissioner Adelstein
Barry Ohlson, Office of Commission Adelstein
Blaise Scinto, Acting Cheid, Policy Division, Wireless Telecommunications Bureau

Attachment

PHASE II E-911 IMPLEMENTATION IN RURAL EASTERN MONTANA
MID-RIVERS CELLULAR

INTRODUCTION

Mid-Rivers Cellular is a cooperative-based, small cellular service provider attempting to balance the provision of emergency services (in the manner mandated by the FCC) with the challenges of daily service to 2000+ subscribers in a rural, sparsely-populated market. Having completed a study which demonstrates that Phase II E-911 cannot be implemented without financially jeopardizing continued service to the public, Mid-Rivers seeks to ensure that decision-makers are informed of the realities of wireless operations by small carriers serving the more remote areas of the Nation.

MID-RIVERS SERVICE AREA CHARACTERISTICS

- Sparsely populated (less than 1 person per square mile)
- Mid-Rivers is sole wireless service provider over approximately 90% of its 10,000 square mile territory
- Economics demanded network design to maximize coverage (analog three-watt customer equipment)

PHASE II E-911 IMPLEMENTATION LIMITATIONS

- Hand-set solution unavailable to analog systems. A digital upgrade would require a capital investment almost twice the current capital account in equipment upgrades alone, and actually degrades current coverage without construction of additional cell sites.
- Network solution proposal requires a capital investment at least equal to the existing capital account, without any guarantee that FCC accuracy standards will be met
- The six-month time frame for implementation is unrealistic, given construction obligations
- No state funding mechanism exists for wireless carriers in Montana for non-recurring capital costs
- Other federal mandates also require capital investment (CALEA, Local Number Portability)

PROPOSED SOLUTIONS

- Grant or other funding available to implement a nationwide policy without endangering nationwide service AND
  Relaxation of accuracy standards AND
  Extensions of deployment deadlines

  OR
- Waiver

For further information, please contact **Gerry Anderson** *(406/485-3301) or Sylvia Lesse (202/296-8890)*

Mid-Rivers
CELLULAR

E-911 PHASE II SUMMARY

MID-RIVERS CELLULAR
CIRCLE, MT

For additional information,
please **contact:**

Gerry Anderson (406/485-3301)
Sylvia Lesse (202/296-8890)

Mid-Rivers is a "fill-in" cellular licensee (that is, a provider of service to areas abandoned by the original licensees), providing AMPS (analog) cellular service to a more than 10,000 square mile area in Eastern Montana (See Exhibit A – Mid-Rivers Cellular service map). The cellular system was designed to cover the largest area possible from each tower site using three-watt "bag" telephones. The area served by Mid-Rivers is very sparsely populated-less than one person per square mile. Mid-Rivers is the only wireless carrier in all but a very small portion of its cellular service area. Although other licenses have been granted in this area, (i.e. one additional cellular & six PCS licenses), other carriers have not offered service due, no doubt, to the realistic financial concerns that the sparse population does not provide the opportunity to achieve a targeted or reasonable rate of return on investment. (See Exhibit B – service area of other cellular carriers).

While fully recognizing the financial difficulties that would be encountered, Mid-Rivers Cellular acquired licenses and began providing cellular service to satisfy primarily the "safety" concerns of area residents who would otherwise be without cellular or wireless service. Subsequent to the initial provision of service in 1996 from eight sites, Mid-Rivers has provided

expanded service to four previously unserved areas, including a portion of the Northern Cheyenne Indian reservation. (Exhibit C) Mid-Rivers' commitment to the welfare of the communities it serves is evidenced not only by the provision of cellular service but also by additional activities as enumerated in Exhibit D.

It is ironic that Mid-Rivers Cellular must now consider discontinuing cellular service entirely because it cannot meet government mandates that establish a single standard for the delivery of emergency services, i.e. Phase II E-911 service. Mid-Rivers supports the provision of E-911 service, but is not in a financial position to provide the service as currently defined. The Federal Communications Commission's insistence on the highest technological level of wireless emergency service may ultimately mean that the area currently receiving wireless service only from Mid-Rivers is deprived of *any* emergency service. Certainly this cannot be the outcome that was desired or intended.

A cost analysis for the provision of Phase II Cellular service is enclosed as Exhibit E. The rough estimate to provide Phase II E-911 service via the "network solution is approximately $3,000,000, a figure derived without

benefit of the receipt of budgetary pricing from potential vendors. Furthermore, it is Mid-Rivers' conclusion that additional towers may be required to meet the currently-mandated accuracy level, which will increase the cost of Phase II E-911 service from the current estimate of $3,000,000 by approximately $300,000 per site. For comparative purposes, it is interesting to note that Mid-Rivers' total current investment in cellular assets is $3,986,000. With only 2,150 subscribers, it appears that the service cannot be priced to recoup even a doubled capital investment over any reasonable time period.

The Phase II E-911 provisioning rules should not be developed or enforced on "a one size fits all" basis. It is emphatically apparent that the provision of Phase II E-91 ▮ service is unaffordable for a carrier of Mid-Rivers size and operational characteristics. The regulatory approach should be flexible so that individual circumstances can be considered. The alternative to regulatory flexibility is that wireless carriers, such as Mid-Rivers, will be forced to discontinue service; certainly a tragic and unintended consequence of "one size fits all" regulation.

Following is a list of discussion items for your consideration with regard to the regulation and possible legislation covering the provision of Wireless E-911 service. Mid-Rivers Cellular's situation may not be typical, i.e., a very sparsely populated service area served by one wireless carrier, but other rural wireless carriers may be in similar, if not identical situations with regard to the provision of Phase II E-911 service.

Mid-Rivers respectfully asks that the FCC and Congress consider the following when developing and enforcing Phase II E-911 regulations and legislation.

1) The FCC must consider and grant waivers for the provision of Phase II E-911 service in extreme circumstances, such as Mid-Rivers case. The current accuracy standards should be relaxed so that the construction of additional tower sites is minimized or eliminated. The cost of additional tower sites makes Phase II E-911 service unaffordable in rural areas.
2) In conjunction with #1 above, the time for compliance with a PSAP request for Phase II E-911 service should be extended for rural wireless carriers. It is clear that rural carriers will not incur E-911 expenditures until valid requests are received, because these

expenditures are non-revenue producing. Furthermore, in the instance where additional tower construction is required, it is unrealistic to suggest that land lease or purchase arrangements generally can be completed within the six-month period, let alone construction and deployment of additional facilities. The current six-month period simply is insufficient, given the necessity to coordinate construction and obtaining necessary financing.

3) Because no public funding is currently available to Mid-Rivers, Federal and State grant funding must be provided to Mid-Rivers and similarly-situated rural wireless carriers for the provision of Phase II E-911 service. If a ubiquitous Nationwide E-911 system is a national policy, then it is imperative that grant funding be available to not only the PSAP's, but to the rural wireless carriers. As Congress and the FCC have recognized in the context of the ubiquitous availability of landline telephone service, in areas like Eastern Montana, there would be no service without the existence of Rural Utility Service funding and the Universal Service Fund. A nationwide wireless E-911 system will not be attained unless similar financial programs are available for rural wireless carriers.

EXHIBIT A

Mid-Rivers COMMUNICATIONS

AMPS Cellular Information

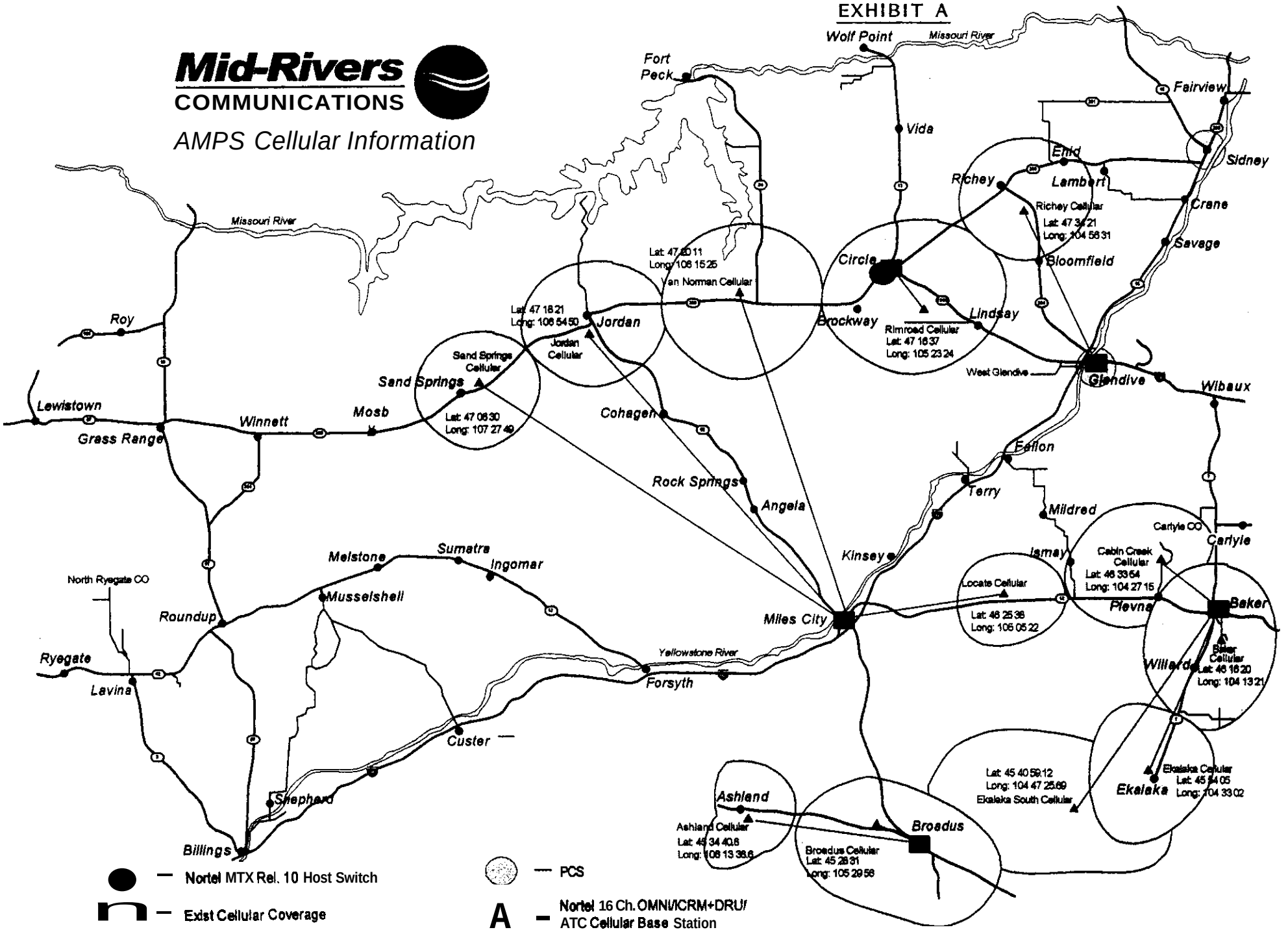
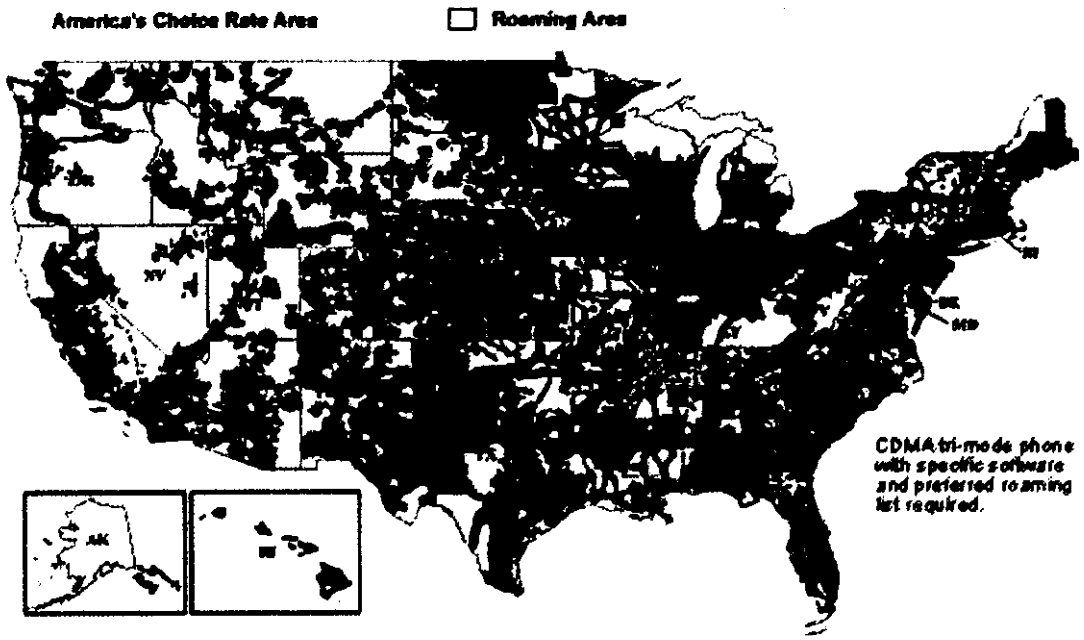


EXHIBIT B

Calling Plan Maps: America's Choice℠

National | National Mobile To Mobile | Local | Local Mobile to Mobile | [FREEUP] Network Rate Area

Service for: BILLINGS, MT



WESTERN WIRELESS

EXHIBIT B

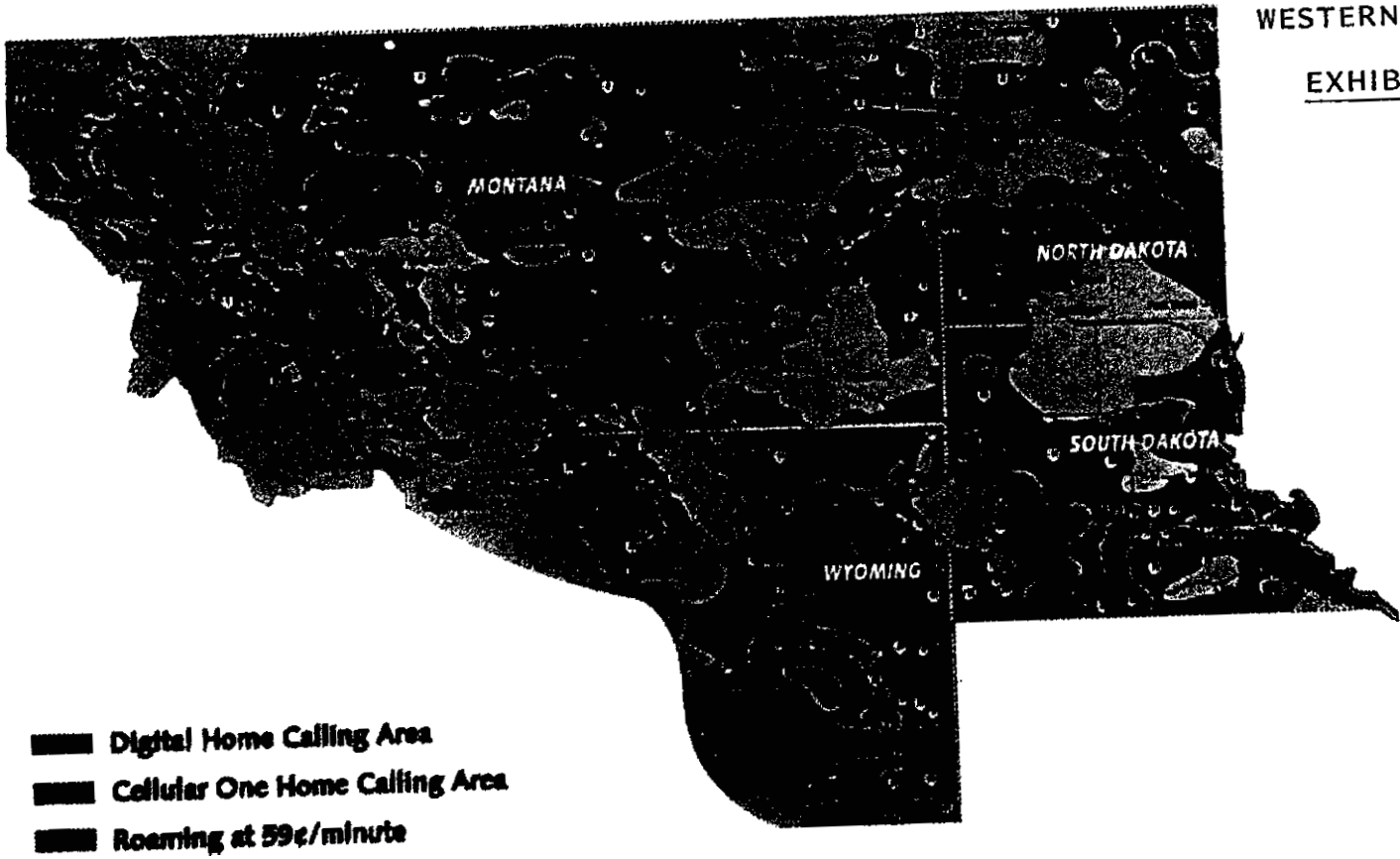


EXHIBIT C

C&CC CELLULAR SITE LICENSE GRANT/ TURN-UP DATES		
Site Name	**Call Sign**	**Licence Grant/Turn-up Date**
Baker	KNKR293	12/4/1996
Cabin Creek	KNKR293	12/4/1996
Ekalaka	KNKR293	12/4/1996
Richey	KNKR290	12/16/1996
Rimroad	KNKR290	12/16/1996
Jordan	KNKR289	1/13/1997
Sand Springs	KNKR289	1/13/1997
Van Norman	KNKR289	1/13/1997
Locate	KNKR293	9/24/1998
Broadus	WPSD973	3/23/2001
South Ekalaka	WPTV839	12/27/2001
Ashland	WPVK992	12/13/2002

Revised: 4/2/2003

EXHIBIT D

Mid-Rivers is a community-based company, which provides many necessary services in an area that does not have access to these services from any other source.

*Interactive TV for our schools and communities.
*High speed Internet access.
*Assistance to the National Weather Service for the establishment of emergency weather radios in several areas that previously did not have this service.
*Broadband access to a video camera that monitors the ice flows on the Yellowstone River to help warn of a possible flood disaster.
*A bank of 16 reserve lines at no charge for the Disaster and Emergency Services so that emergency communications are available on very short notice.
*The coordination and placement of emergency warning sirens on Mid-Rivers property and towers.

EXHIBIT E

MID-RIVERS CELLULAR
904 C AVENUE
CIRCLE, MT 59215
406-485-3301

E911 COST ANALYSIS – PHASE II

MRL

MONTE R. LEE & COMPANY
COMMUNICATIONS ENGINEERS
100 N.W. 63RD ST., STE. 100
OKLAHOMA CITY, OK 73116
PH. 405 / 842-2405 FAX 405 / 848-

31-Mar-03

TABLE OF CONTENTS

Page No.

Executive Summary

This report is an analysis of the costs involved to implement FCC E911 Phase II compliance for the Mid-Rivers Cellular AMPS Cellular network.

Based on an analysis completed by Monte R. Lee and Company, Consulting Engineers, located in Oklahoma City, OK., the existing cellular system has to be supplemented by at least 9 or as many as 12 sites, dedicated to radio location only, to meet FCC E911 Phase II compliance.

Each of the existing cell sites will be installed with electronics to provide TDOA (Time Difference of Arrival) data to the MSC. Each supplemental site will be equipped with electronics to provide TDOA and AOA (Angle **of** Arrival) data to the MSC.

Using engineering judgment and estimated costs, the project construction costs will be:

For 9 Towers Using Intrado	$2,943,151
For 9 Towers Using TCS	$2,939,852
For 12 Towers Using Intrado	$ 3,610,322
For 12 Towers Using TCS	$3,604,002

The following is a detail report of all items covered in this project.

1. ENGINEERING ANALYSIS

Based on an analysis of the Mid-Rivers Cellular network, the only available options to meet E911 Phase II compliance is to deploy a network solution configuration. The other available solution, know as the GPS handset based solution, is not a choice for an AMPS network as the AMPS system does not transport data. There are at least two vendors who have equipment installed in the field and meet all FCC E911 Phase II mandates. At this time, we were unable to get any detailed pricing from these vendors without sharing the details of the Mid-Rivers Cellular network with them. Even after signing a nondisclosure agreement with them, they were not agreeable to provide budgetary pricing and engineering provisioning rules for additional towers that may be needed to do TDOA or AOA to meet the FCC mandates. However, both the vendors advised us to use $50,000 per site for their electronic equipment. Installation, engineering, site survey and transportation costs will be over and above the costs of the electronics.

2. ASSUMPTIONS

In the absence of any detailed guidance from the vendors, an engineering study was performed based on data available to us and we determined that at least nine (9) or as many as 12 additional towers will be required. Nine **(9)** towers could possibly provide sufficient coverage if the right sites could be acquired and depending on performance specifications of equipment. In the case of 12 new towers, one additional tower per existing cell site is required to supplement the calculations for **TDOA** and AOA. The new towers will need to be far enough apart to provide sufficient time difference arrival calculations and yet close enough that both patterns cover the entire coverage area.

The new towers will have radio equipment to backhaul a 56Kbps circuit to the existing nearest cell site and will use an unlicensed DS 1 radio. Equipment will be added at the cell site to extract the 56Kbps channel. At the existing cell site the backhaul DS1 will **be** utilized to haul the 56Kbps circuit to the MSC.

The assumption is that the new towers will be 300 foot guyed towers.

3. SELECTIVE ROUTER

Regarding the question **of** having to **go** through a selective router, as per all information available, all wireless carriers need to go through a selective router. The selective router may be provided by the **E911** tandem carrier or Mid-Rivers can provide their own. It is not cost effective for Mid-Rivers **to** have their own selective router.

The two companies providing ALI (Automatic Line Identification) database service are Intrado and TCS. Both are connected to most **of** the selective routers.

Intrado and TCS require that Mid-Rivers Cellular has **SS7** functionality to communicate with their ALI database.

4. DETAIL PRICING

4.1. E911 DATABASE PROVIDER

There are two (2) E911 database providers available for the state of Montana. Intrado and TCS are the providers. Each company's costs are listed below.

4.1.1. INTRADO

Intrado, Inc., headquartered in Boulder, Co., is one of the providers of management solutions for emergency services for both wireline telephone companies and wireless carriers. Intrado ALI systems are deployed in geographically diverse, mated-pairs ***or*** quads to ensure continuous availability of ALI and selective routing support. At present, more than 24 leading carriers are using Intrado services. The Intrado service costs are identified below:

Initial Setup and Contract Non- recurring fee	$12,000
Per Tower Non-recurring fee	$ 605 / tower
Phase II per Tower Non-recurring fee	$ 200 / tower
Monthly fee	$ 150/tower/month/technology

SS# 7 Links to Verisign

Trunks to Billings Selective Router

Wireless Carrier is responsible for PDE equipment and maintenance

4.1.2. TCS

Telecommunication Systems, Inc. (TCS), located in Annapolis, MD, is a provider of the essential backbone wireless location technology and service components for its wireless E911 solution via its "Xypoint" location platform. TCS is presently providing its E911 service to 22 wireless service providers. The TCS service costs are identified below:

Initial Setup and PDE Non- recurring fee	$25,000
Monthly fee	$ 1,150 / PSAP
SS# 7 Links to Verisign	
Trunks to Billings Selective Router	
Wireless carrier is responsible for PDE equipment and maintenance	

4.2. ELECTRONICS FOR EXISTING CELL SITES AND MSC

Location radio equipment, digital cross connect, backhaul radio equipment to supplemental sites and antenna system for backhaul will be installed at each of the 12 existing cell sites.

Cost of Equipment for Existing Cell Sites

Item	cost
Radiolocate Electronics for Cell Sites & MSC	$50,000
(2) Digital Cross-connect for DSO	**5,800**
(1) Digital Cross Connect at MSC	2,900
(1) Backhaul Microwave Radio to Supplemental Site	8,000
Antenna System for Backhaul (Installed)	5,000
Total	**$71,700**

4.3. SUPPLEMENTAL SITES

All supplemental sites required to comply with E911 Phase II will require acquisition of land, buildings, 300 foot guyed tower installation, and civil and electrical work.

Location radio equipment, digital cross connect, backhaul radio equipment to nearest existing cell sites and antenna systems for backhaul will be installed at each supplemental site.

Cost of Supplemental Sites

Item	cost
Radiolocate Electronics	**$50,000**
(1) Digital Cross-connect for DSO	2,900
(1) Backhaul Microwave Radio to Supplemental Site	**8,000**
Antenna System for Backhaul (Installed)	5,000
300 ft. Guyed Tower	80,000
Building	18,000
Antenna System (Installed)	8,000
Civil / Electrical	10,000
Land	25,000
Total	***$206,900***

4.4. CIRCUIT CELL SITE TO MSC

The E911 Phase II network requires a 56Kbps circuit from each cell site back to the hub to be transmitted to the selective router site. The terminating equipment and MSC portion of location equipment will be placed in Circle, MT., where the MSC is located. Multiplex equipment is required at each existing cell site to channelize the backhaul DS1 and insert the

56Kbps circuit. New cell sites will require a radio link to the nearest existing cell site and multiplex equipment to handle the 56Kbps circuit.

4.5. CIRCUIT FROM MSC TO SELECTIVE ROUTER

The selective router serving the PSAPs for all the counties served by Mid-Rivers is located at Billings, MT.

At least two E911 circuits are required from the MSC in Circle, MT. to the selective router located in Billings, MT. Montana requires that a DS1 facility be set up between the two locations to handle the E911 circuits. Diversity **is** recommended for these circuits, therefore two DSl's will be set up and the E911 circuits split between the two systems. The DS1 must be multiplexed at the selective router location, either with a channel bank or on a DACS (digital access cross-connect system). The DS1 must be set up as super frame or extended super frame and ESF/B8ZS.

4.5.1. COST OF DS1 FACILITY BILLINGS TO CIRCLE

The cost of a DS1 from Circle to Billings was developed based **on** the Interstate FCC Tariff. For a 36 month contract the monthly costs per DS1 is $3,102 with a nonrecurring charge of $388 to install each circuit. The total monthly costs for the two DSl's is $6,204.

Cost of DS1 Facility Billings to Circle

Distance 235 miles

Rate Elements:	Monthly Contract	36 Month Contract
Channel Termination	$250	$ 230
Transport Channel Fixed	100	85
Transport Channel Mileage	3,008	2,557
Mulitplexing	250	230
Total	$3,608	$3,102
One Time non-recurring charge	$388	$388

It is assumed that two DSl's will be set up on a 36 month contract. The total cost for the two circuits is as follows:

Monthly (2DS1's)	$6,204
One time non-recurring charge (2 DSl's)	$ 776

4.6. SS7 REQUIREMENTS

The MSC must have a connection to the SS7 network. A query is performed on the TCS or Intrado database when a 911 call is made. Mid-Rivers has a connection to the SS7 network through Verisign. There will be a minimum cost with Verisign to set up access to either Intrado or TCS.

Estimated costs for SS7 configuration $1,000

4.7. ENGINEERING COSTS

E911 Phase II equipment implementation and installation will require RF planning to select general tower locations. Issues such as access to power and landline connectivity must also be considered. Specific site RF coverage planning must also **be** modeled to ensure compliance with E911 objectives.

Construction engineering costs include FAA site clearance and registration, state historic preservation office clearance, permits for construction, site plans and specifications, etc. During actual construction someone is typically on site supervising the tower crews regarding antenna placement and orientation, site grounding, power and land line interconnection and site specific installation issues.

Our estimate of engineering costs to provide these services is 7% **of** the total construction costs.

5.1. 12 EXISTING SITES AND 9 SUPPLEMENTAL SITES

5.1.1. USING INTRADO

Electronics for 12 Existing Sites	$ 860,400
Electronics for 9 Supplemental Sites	1,862,100
Facility	176
Intrado	28,905
SS#7 Provisioning	1,000
Engineering	190,576
Total	**$2,943,757**
Recurring Monthly Charges	**$ 9,354**

5.1.2. USING TCS

Electronics for 12 Existing Sites	$ 860,400
Electronics for 9 Supplemental Sites	1,862,100
Facility	176
TCS	25,000
SS#7 Provisioning	1,000
Engineering	190,576
Total	**$2,939,852**
Recurring Monthly Charges	**$ 11,954**

5.2. 12 EXISTING SITES AND 12 SUPPLEMENTAL SITES

5.2.1. USING INTRADO

Electronics for 12 Existing Sites	$ 860,400
Electronics for **9** Supplemental Sites	2,482,800
Facility	776
Intrado	31,320
SS#7 Provisioning	1,000
Engineering	234,026
Total	**$3,610,322**
Recurring Monthly Charges	$ **9,804**

5.2.2. USINGTCS

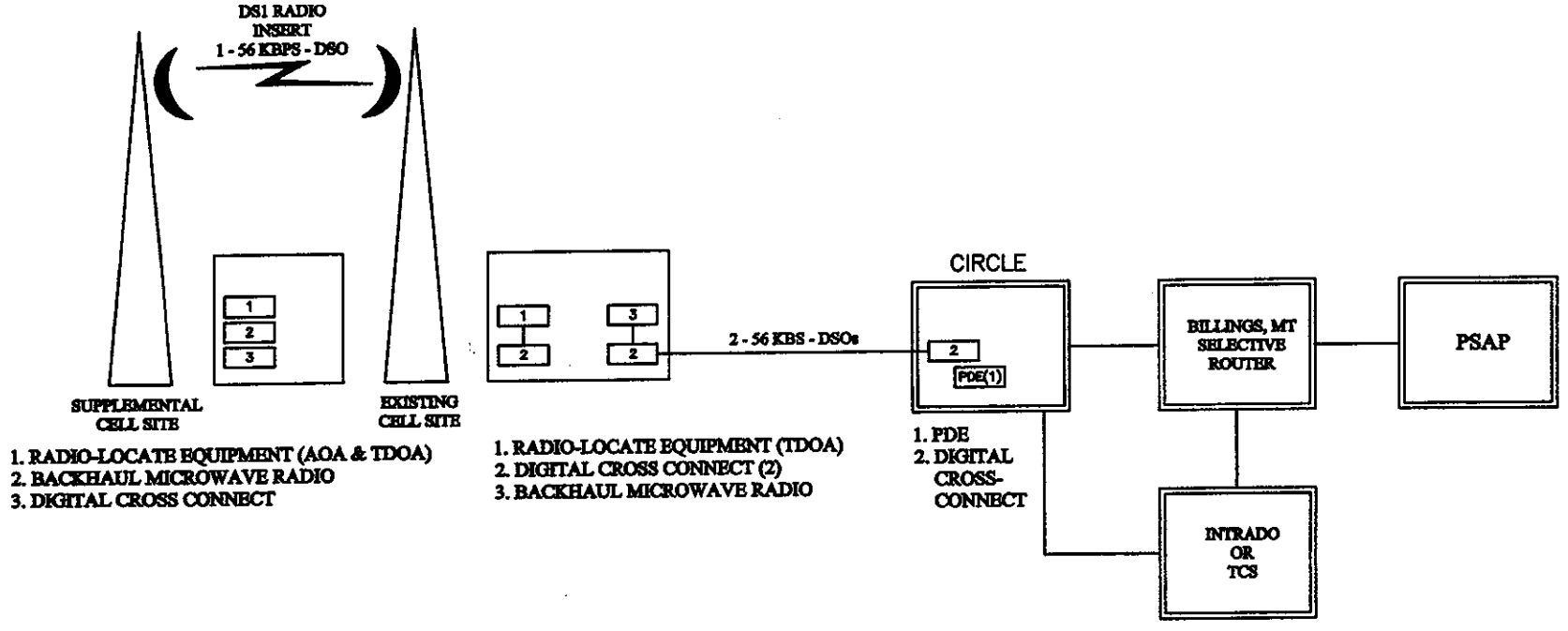
Electronics for 12 Existing Sites	$ 860,400
Electronics for **9** Supplemental Sites	2,482,800
Facility	776
TCS	25,000
SS#7 Provisioning	1,000
Engineering	234,026
Total	**$3,604,002**
Recurring Monthly Charges	$ **11,954**

6.1. EXHIBIT A – NETWORK AND SITE DIAGRAMS

- **A-1** **Mid-Rivers Comm. Existing Network Block Diagram**
- **A-2** **Mid-Rivers Comm. Proposed Network Block Diagram**
- **A-3** **Mid-Rivers Comm. Typical Drawing for One Existing Site and One Supplemental Site**

MID RIVERS COMMUNICATION

WIRELESS NETWORK TYPICAL DIAGRAM WITH A SUPPLEMENTAL TOWER



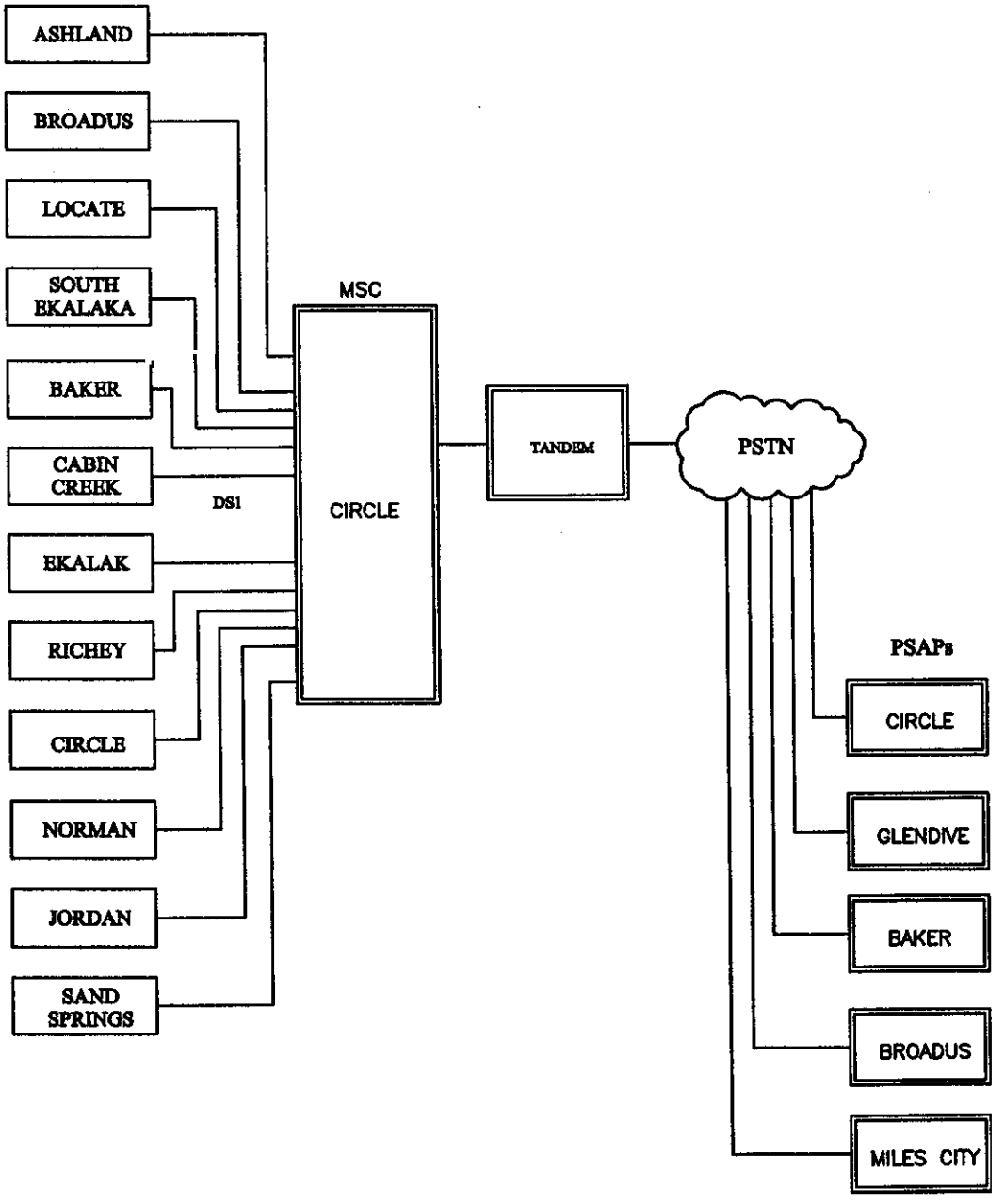
MONTE R. LEE & CO.
CONSULTING ENGINEERS
OKLAHOMA CITY, OK. 73116
(405)843-8405

WIRELESS_NETWORK_TYPICAL.DWG
3/30/03 ED

EXHIBIT A-1

MID **RIVERS COMMUNICATION**

*EXISTING WIRELESS**NETWORK***
BLOCK DIAGRAM

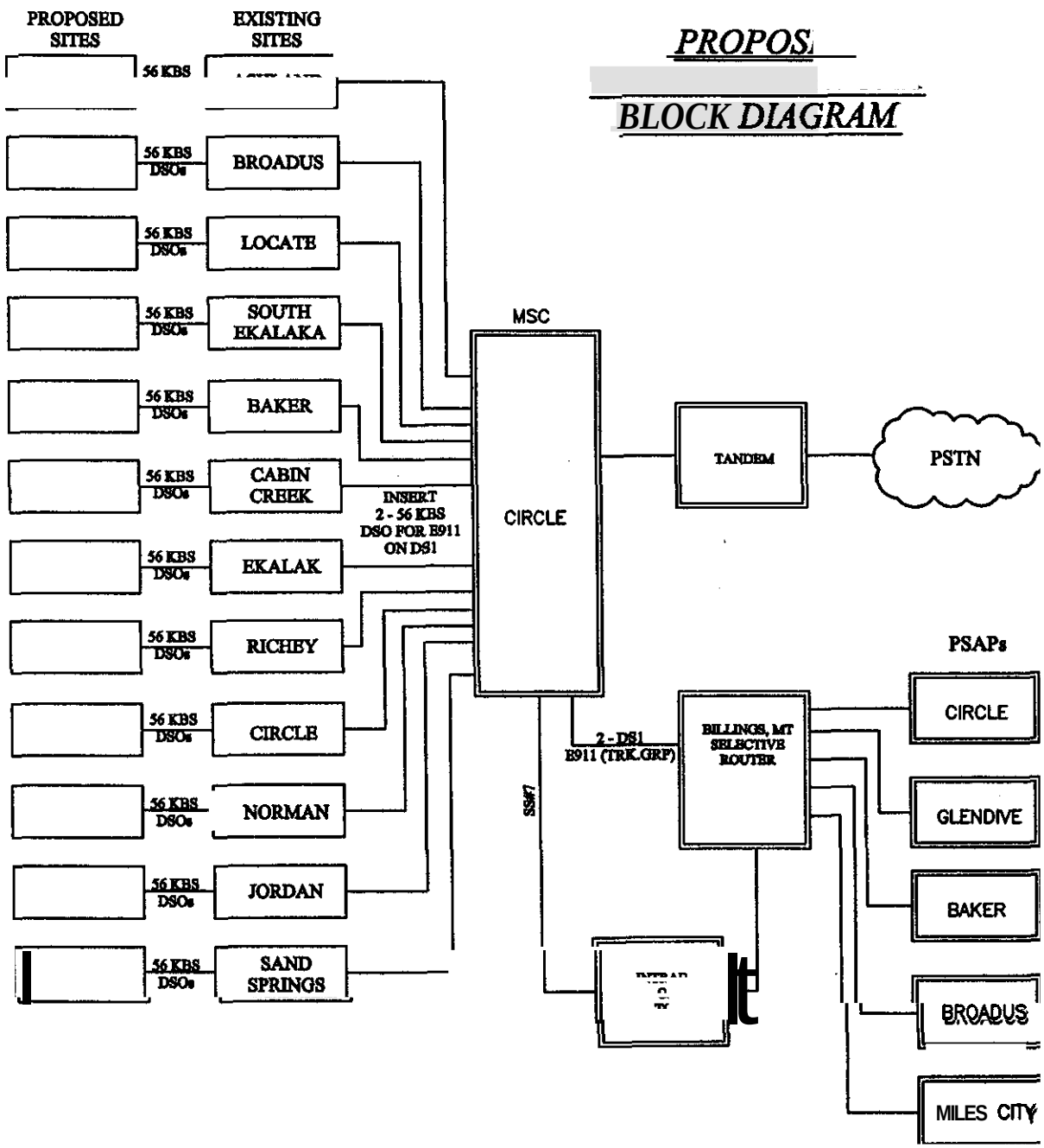


MONTE R. LEE & CO.
CONSULTING ENGINEERS
OKLAHOMA CITY, OK. 73116
(405)843-8405

EXISTING_WIRELESS_NETWORK.DWG
8/26/08 ED

EXHIBIT A-2

MID RIVERS COMMUNICATION



MONTE R. LEE & CO.
CONSULTING ENGINEERS
OKLAHOMA CITY, OK. 73116
(405)842-8405

PROPOSED_WIRELESS_NETWORK.DWG
5/30/00 KD

EXHIBIT A-3

Rural areas embrace cellular technology

Associated Press

Klaren Koompinuses his cell phone to communicate with a field hand on the Koompin Brothers Farm In Pocatello, Idaho. As technology has improved, Idaho, Wyoming and other sparsely Populated areas of the nation have been quick to embrace the wireless lifestyle.

By WILLY ZIMMER
Casper Star-Tribune

CASPER, Wyo. — Cellular phones were once more curiosity than necessity — a convenience when they worked, and an object of abuse when they didn't.

But technology has improved dramatically in recent years, as have calling rates. And with improved service, Wyoming and other sparsely populated areas of the nation have been quick to embrace wireless.

A recent survey conducted by Western Wats, an Utah research firm, indicates rural customers are becoming increasingly reliant on cellular phones–for business and personal needs. Western Wats polled 1,000 customers of Western Wireless Corp., in areas with population of eight people or less per mile.

The results indicate increasing reliance on wireless communication, with 51 percent of wireless users saying their cell phone has at least partially replaced land line phones.

Twenty-three percent said they regard a cell as their primary phone, and 15 percent of those polled plan to eventually replace a land line with cellular.

Western Wireless, which operates Cellular One service in Wyoming and 13 other Midwestern and Western states, commissioned the survey.

President Mikal Thomsen said his company made a conscious decision more than a decade ago to focus on rural customers, and the decision is beginning to bear fruit.

"As little as four years ago in Wyoming,

Please see Technology, 7D

Billings Gazette

Technology

Continued from 1D

the average customer had about 125 minutes of use Today it's something over 400," Thomsen said "A lot of that is changing the rate plans. But an awful lot of it is people are just coming in and saying 'OK, I'm not just going to just use a cellular phone while I'm on the road in between wired phones.' ...

"Just in the last year, our company has seen a 30 percent increase in the number of minutes per month over its entire million-person customer base It's been pretty remarkable."

Cell phones have come a long way since the concept was developed in 1947. Researchers who were attempting to create a mobile phone out of World War II military technology discovered localized service cells could substantially increase caller traffic.

The Federal Communications Commission limited the number of conversations, however. to 23 per cell, rendering commercial applications impractical. After the FCC reconsidered those limits in 1968, research began in earnest and by 1977 a prototype system was tested in Chicago. In 1982, the FCC approved commercial service nationwide

The technology has since become so efficient, virtually anything a land line can do, cellular can do.

Cell phones have become so efficient, and versatile some customers are electing to go totally wireless — a decision Rebecca Tennille, senior manager of media relations for Qwest, calls "cutting the cord"

Tennille said statistics compiled by The Yankee Group, a firm that analyzes the telecommunications industry, indicate up to 3 percent of customers nationwide are strictly wireless.

'We see it a lot in college students, we see it d y for second-line, wire-line replacement — people using wireless in lieu of a land line Wueless competition is very robust and healthy, especially in rural areas like Wyoming," Tennille said.

Cell phone usage in the West is strong because wireless adapts well to rural life.

Spencer Brennan, 30, is a methane-gas consultant from Sheridan, and a Western Wueless customer. Brennan spends numerous hours in his pickup and said cell phones are ideal for his work and mobile lifestyle

'With all your long–distance carriers and everything else, you have to fight with them every month. Half the time, a land line, you don't even use that stuff and you still get charged for it" he said

Land-liie companies aren't ready to tear the wire out of the ground, however. Tennille pointed out that Qwest, which provides much of the land-line service in Wyoming, has a cellular branch of its own.

"It's an opportunity for us as well because we offer products and services. We offer a traditional wireless, then we also have a product called 'Qby Qwest' which is ... basically a local-service wireless phone," Tennille said

But dearly rural customers are increasingly finding wireless more practical as they roam the wide open spaces Thomsen can visualize the day land lines will go the way of the eight-track tape player.

"It started out being people that spent their working lives away from a wired phone," he said "But more and more we are seeing spouses get phones and we're seeing high school students getting phones. We're seeing college students in a lot of cases getting cellular phones and never going out and getting a wired phone at all. ... We are attracting virtually everybody."